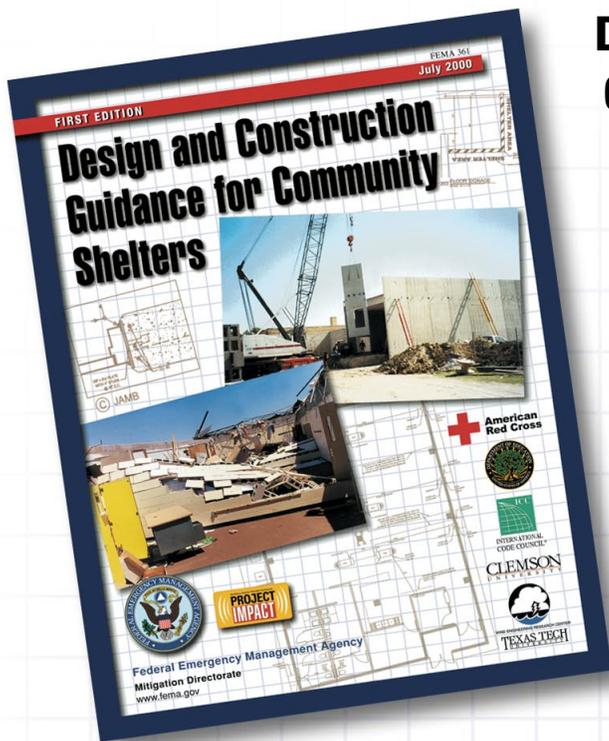


National Hurricane Program

Working for Safer Communities



Design and Construction Guidance for Community Shelters, FEMA 361

To help communities meet wind shelter needs, FEMA prepared **Design and Construction Guidance for Community Shelters** (FEMA 361), which presents detailed engineering guidance for the design and construction of standalone and in-building shelters intended to protect large numbers of people from extreme-wind events, including hurricanes and tornadoes.

Topics covered include:

- hurricane and tornado forces and their effects,
- shelter types,
- shelter siting guidelines,
- shelter performance criteria for wind pressure and debris impact loads,

- multi-hazard considerations,
- criteria for occupant safety and comfort, and
- emergency management considerations.

The manual also includes:

- case studies with wind load analyses, design plans, operations plans, and cost estimates,
- the results of laboratory tests of wind pressure and debris impact loads on shelter walls, doors, and door hardware, and
- a benefit-cost model, on CD-ROM, for hurricane and tornado wind shelters.



The manual and accompanying CD-ROM with benefit-cost model are available from the FEMA Publications Distribution Facility at 1-800-480-2520.